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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/826,948

04/16/2004

Craig J. Reuscher

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10/31/2006

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EXAMINER

PARVINI, PEGAH

ART UNIT

PAPER NUMBER

1755

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

8

<b>Office Action Summary</b>	<b>Application No.</b> 10/826,948	<b>Applicant(s)</b> REUSCHER, CRAIG J.	
	<b>Examiner</b> Pegah Parvini	<b>Art Unit</b> 1755	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04/16/2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040416</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, 5, and 8, it is unclear whether the values for weight ratios represent the ratio of Na<sub>2</sub>O or K<sub>2</sub>O to SiO<sub>2</sub> or vice versa.

Claims 2-4, 6 and 7 are indefinite for failing to correct the deficiencies of claims 1 and 5.

Claim 9 is indefinite because the word "typically" makes it unclear whether what follows is required or optional.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 5 and 8 are rejected under 35 U.S.C. 103(a) as being anticipated by US Patent No. 5908501 to Pucillo.

With reference to claims 1, 5, and 8, Pucillo discloses a composition containing an alkali silicate solution comprising a mixture of 5 to 50 weight percent sodium silicate having a molar ratio of  $\text{Na}_2\text{O}/\text{SiO}_2$  of 1 to 4 (i.e., a weight ratio of  $\text{Na}_2\text{O}/\text{SiO}_2$  of 1.03 to 4.1) and 50 to 95 percent of potassium silicate having a  $\text{K}_2\text{O}/\text{SiO}_2$  molar ratio of 1 to 4 (i.e., a weight ratio of  $\text{K}_2\text{O}/\text{SiO}_2$  of 1.6 to 6.2) (Column 4, Lines 38-40 and Lines 50-65). This alkali solution is mixed with water in an amount of 25 to 50 weight percent alkali silicate with 40 to 60 weight percent water (Column 4, Line 48). As will be described below, this composition appears to have overlapping ranges of components and  $\text{Na}_2\text{O}/\text{SiO}_2$  ratios with the composition of the instant claims. Overlapping ranges have been held to establish *prima facie* obviousness. See MPEP 2144.05.

Claims 1, 5, and 8 define a product that is an aqueous mixture of two different sodium silicate solutions. Once the two forms of sodium silicate are mixed, one would not be able to discern which portions of the sodium silicate were from the 2.00 sodium silicate, and which portion was from the 3.22 sodium silicate. If 25 parts 2.00 sodium silicate and 25 parts 3.22 sodium silicate were mixed, it would appear the same as a composition that is 50 parts 2.61 sodium silicate. In other words, claims 1, 5, and 8 could be described as a composition containing 10 to 100 parts 2.11 to 3.11 sodium silicate (5 parts 2.00 sodium silicate and 50 parts 3.22 sodium silicate would result in

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3.11 sodium silicate, and 50 parts 2.00 sodium silicate and 5 parts sodium silicate would result in 2.11 sodium silicate).

As noted above, the reference discloses employing 5 to 50 parts of 1.03-4.1 sodium silicate.

5. The reference does not disclose that the material is "for reducing and sealing the porosity of sintered, compacted powdered metal and liquid cast metal products from the group of metals, such as iron, steel, aluminum, titanium, magnesium, copper, brass, bronze, zinc, nickel, and their alloys without altering the metallurgical properties of the products, so that the subsequent application and performance of functional surface treatments or performance coating is effective". However, this is a statement of intended use. With regard to statements of intended use, MPEP 2111.02 states:

During examination, statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the recited purpose or intended use results in a structural difference (or, in the case of process claims, manipulative difference) between the claimed invention and the prior art. If so, the recitation serves to limit the claim. [MPEP 2111.02 (Citing *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963))]

No structural difference can be discerned between the prior art and the instant invention.

6. Claims 2-4, and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5908501 to Pucillo as applied to claims 1 and 5 and further in view of US Patent No. 5888280 to Montes.

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With reference to claims 2-4, and 6-7, Pucillo discloses a composition of an alkali silicate solution with the weight ratio and percentage amounts as recited in claims 1,5, and 8 as well as the water amount added to the solution as described above.

Pucillo is silent as to any additives and their amounts, which could be added to the preventing material; also, it is silent as to the use of a low shear mixing.

Montes teaches the addition of up to about 5% of additives such as rheological modifiers, plasticizers, and pigment wetting agents to a protective coating which is a liquid mixture formed by combining Group IA metal silicate with the colloidal silica ingredient that is modified with a Group IA metal silicate (Column 6, Lines 45-54, and Column 7, Lines 22-27). The reference, also, discloses the addition of distilled water to the solution (Column 6, Lines 55-61). Additionally, the prior art discloses that the liquid mixture is blended by conventional means to obtain a homogeneous mixture (Column 7, Lines 33-34).

It would have been obvious to include in Pucillo the additives in the preferred amount as disclosed by Montes in order to make a protective coating composition which is formed from combining the Group IA silicate compounds and distilled water in addition to certain additives described above. Moreover, the addition of these additives is important in preparing a full primer out of a coating composition (Column 5, Lines 51-56).

It is noted that the claims recite "comprising" not "consisting" of certain components; therefore, the zinc dust and carbonate compounds as disclosed by Montes may or may not be added to the solution.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5908501 to Pucillo as applied to claim 8 above, and further in view of US Patent No. 5466280 to Lee et al.

With reference to claim 9, Pucillo discloses a composition of an alkali silicate solution with the weight ratio and percentage amounts as recited in claims 1, 5, and 8 as well as the water amount added to the solution as described above.

Pucillo does not disclose any lithium silicate solution having a weight ratio of silicate to alkali of 10.0.

Lee et al. discloses an inorganic coating, which contains an alkali-metal silicate solution selected from sodium, potassium, and lithium (Column 4, Lines 40-45).

It would have been obvious to include in Pucillo the lithium silicate as that taught by Lee et al. motivated by the fact that the pigment disclosed in Lee et al. is an inorganic pigment which contains an alkali-metal silicate solution selected from sodium, potassium, and lithium in the overlapping weight ratio as recited in the claims (Column 5, Lines 17-18). Additionally, the reference also talks about adding water to the solution (Column 4, Lines 53-54).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US Patent No. 3501320 to Pietryka et al.

US Patent No. 4380595 to Arpin

US Patent No. 6324757 B1 to Barks


US Patent No. 6159276 to Barks

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pegah Parvini whose telephone number is 571-272-2639. The examiner can normally be reached on Monday to Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PP

  
DAVID SAMPLE  
PRIMARY EXAMINER